

## PATENT SPECIFICATION

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## PROVISIONAL SPECIFICATION

Improvements in or relating to Fixing Bands for Coverings of  
Pipes and the like

We, BELL'S ASBESTOS AND ENGINEERING LIMITED, of Bestobell Works, Slough, in the County of Bucks, Manufacturers, a British Company, and THOMAS ROSS ARMSTRONG, of 58, Doveridge Road, Hall Green, Birmingham, a British Subject, do hereby declare the nature of this invention to be as follows:—

This invention relates to fixing bands 10 for coverings of pipes and the like.

A common method of lagging or insulating a pipe is to place or wrap a thickness of insulating material, for example, asbestos, felt or the like, around the pipe 15 and secure it in that position by means of circumferential fixing bands. Such bands are conveniently made of strip metal the ends being provided with knobs or projections which are drawn together and united 20 by a length of wire.

The object of this invention is to provide an improved fixing band which will be simple to apply and efficient in use.

According to the present invention a 25 flexible band is provided at or near one end with a spring having means to engage the band at or near the other end thereof whereby the band is retained firmly on the pipe covering. Preferably 30 the band is made of strip steel and the spring is provided with a hook at its free end adapted to engage an eye which is stamped out of the strip at or near that end of the band remote from the spring.

35 The invention will now be described by way of example in its application to sectional coverings for pipes. The pipe to be insulated is enclosed by two similar sectional coverings of asbestos which are 40 arcuate in cross-section and whose plane sides abut one another. These sectional covers are secured in this position by means of a plurality of bands formed of strip metal.

45 Each band is provided with a small coil spring a few inches in length attached to one end of the band. The free end of the spring is formed into a hook. A few

inches from the other end of the band there is stamped out of the metal a small 50 funnel-shaped eye which is engaged by the hook on the coil spring in order to secure the band in position. Two or more of such eyes may be provided. The dimensions of the band and spring are such 55 that the spring is under tension when engaging the eye. This maintains the band tightly round the sectional covering and keeps the hook in engagement with the eye.

The hook end of the spring is sprung 60 into the eye of the band by means of a tool somewhat in the shape of a button-hook with a sharpened end.

According to a modification the end of 65 the spring which is permanently attached to the band is secured an inch or so from the end of the said band conveniently into an eye pressed up out of the metal.

This fixing band is particularly suitable 70 for securing sectional coverings to vertical pipe lines inasmuch as the band remains taut under conditions of contraction or expansion of the pipe line or the insulating medium itself resulting from 75 temperature changes.

The bands may be made in a variety of 80 colours and used for identification purposes. For example red bands may be used for steam pipes and blue bands for water pipes.

If desired the bands, instead of being 85 made of metal, can be made of fabric, for example, webbing or other flexible and suitable material. If the bands are made of webbing the eye can be dispensed with and the hook on the spring made to engage the mesh of the webbing. Alternatively a metal eye is provided in the 90 fabric.

Dated this 19th day of August, 1940.  
HARDINGHAM & URQUHART

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75, Chancery Lane, London, W.C.2,  
Chartered Patent Agents.

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## COMPLETE SPECIFICATION

## Improvements in or relating to Fixing Bands for Coverings of Pipes and the like

We, BELL'S ASBESTOS AND ENGINEERING LIMITED, of Bestobell Works, Slough, in the County of Bucks, Manufacturers, a British Company, and THOMAS ROSS 5 ARMSTRONG, of 58, Doveridge Road, Hall Green, Birmingham, a British Subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly 10 described and ascertained in and by the following statement:—

This invention relates to fixing bands for coverings of pipes and the like.

A common method of lagging or insulating a pipe is to place or wrap a thickness of insulating material, for example, asbestos, felt or the like, around the pipe and secure it in that position by means of circumferential fixing bands. Such 20 bands are conveniently made of strip metal the ends being provided with knobs or projections which are drawn together and united by a length of wire.

The object of this invention is to provide an improved fixing band which will be simple to apply, efficient in use and which will allow for expansion and contraction of the pipe inside the insulation during extreme temperatures.

Another object of the invention is that the insulated covering surrounding the pipe is held firmly in position although the pipe be vertical or inclined.

According to the present invention we provide a fixing band for securing coverings of pipes and the like comprising a single flexible strip provided with a spring at or near one end, said spring having a hook adapted to engage an aperture at or near the other end of the strip, whereby the strip is retained firmly on the pipe covering. Preferably the band is made from strip steel and the aperture in the strip takes the form of an eye which is stamped out in the metal.

The device will now be described with reference to the accompanying drawing which shows a perspective view of a pipe and one form of fixing band made according to this invention.

Referring to the drawing, a pipe 1 is enclosed by two similar sectional coverings 2 of asbestos insulating material which are arcuate in cross-section and 55 whose plane sides abut one another. These sectional covers are secured in this position by means of a plurality of bands 3 of strip metal. Each band is provided with

a small compressed coil spring 4 a few inches in length and anchored to one end of said band as indicated at 5. The free end of the spring 4 is formed into a hook 7. A funnel shaped eye 6 is stamped out of the metal a few inches from the end of the band remote from the spring. The hook 7 on the coil engages the eye 6 thus securing the band firmly in position. Two or more such eyes may be provided on the band, thus allowing these bands to be used on many different sized pipes.

The dimensions of the band and the tension of the spring are such that the spring is under tension when engaging the eye, thus maintaining the band tightly around the sectional covering and keeping the hook in engagement with the eye. The hook end of the spring is sprung into the eye of the band by means of a tool resembling a buttonhook with a sharpened end.

According to a constructional modification, one end of the spring is permanently attached to the band and secured an inch or so from the end of the said band conveniently in an eye pressed up out of the metal.

This fixing band is particularly suitable for securing sectional coverings to vertical or angle pipe lines inasmuch as the band remains in the securing position under conditions of contraction or expansion of the pipe line or the insulating medium itself resulting from temperature changes.

The bands may be made in a variety of colours and so used for identification purposes for example, red bands may be used for steam pipes and blue bands for water pipes. The bands may also be serrated or corrugated to allow of a firmer grip to be obtained on the pipe covering.

If desired, the bands instead of being made of metal can be made of fabric for example, webbing, leather or other suitable flexible material. If the bands are made of webbing the eye can be dispensed with and the hook on the spring made to engage the mesh of the webbing. Alternatively, a metal eye is provided in the fabric.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Fixing band for securing coverings of pipes and the like comprising a single

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flexible strip provided with a spring at or  
near one end, said spring having a hook  
adapted to engage an aperture at or near  
the other end of the strip, whereby the  
5 strip is retained firmly on the pipe cover-  
ing.

2. Fixing band according to Claim 1,  
wherein the strip is made of metal and  
the aperture in the strip takes the form  
10 of an eye pressed out in the metal.

3. Fixing band according to Claims 1  
or 2, wherein several eyes are provided on  
the fixing band whereby the said band can  
be used on different sizes of pipe covering.

15 4. Fixing band according to Claim 1,  
wherein the spring is permanently

attached near one end of the band by  
means of an eye pressed up out of the  
metal.

5. Fixing band according to Claim 1, 20  
wherein the flexible band is made of  
webbing, leather or other suitable flexible  
material.

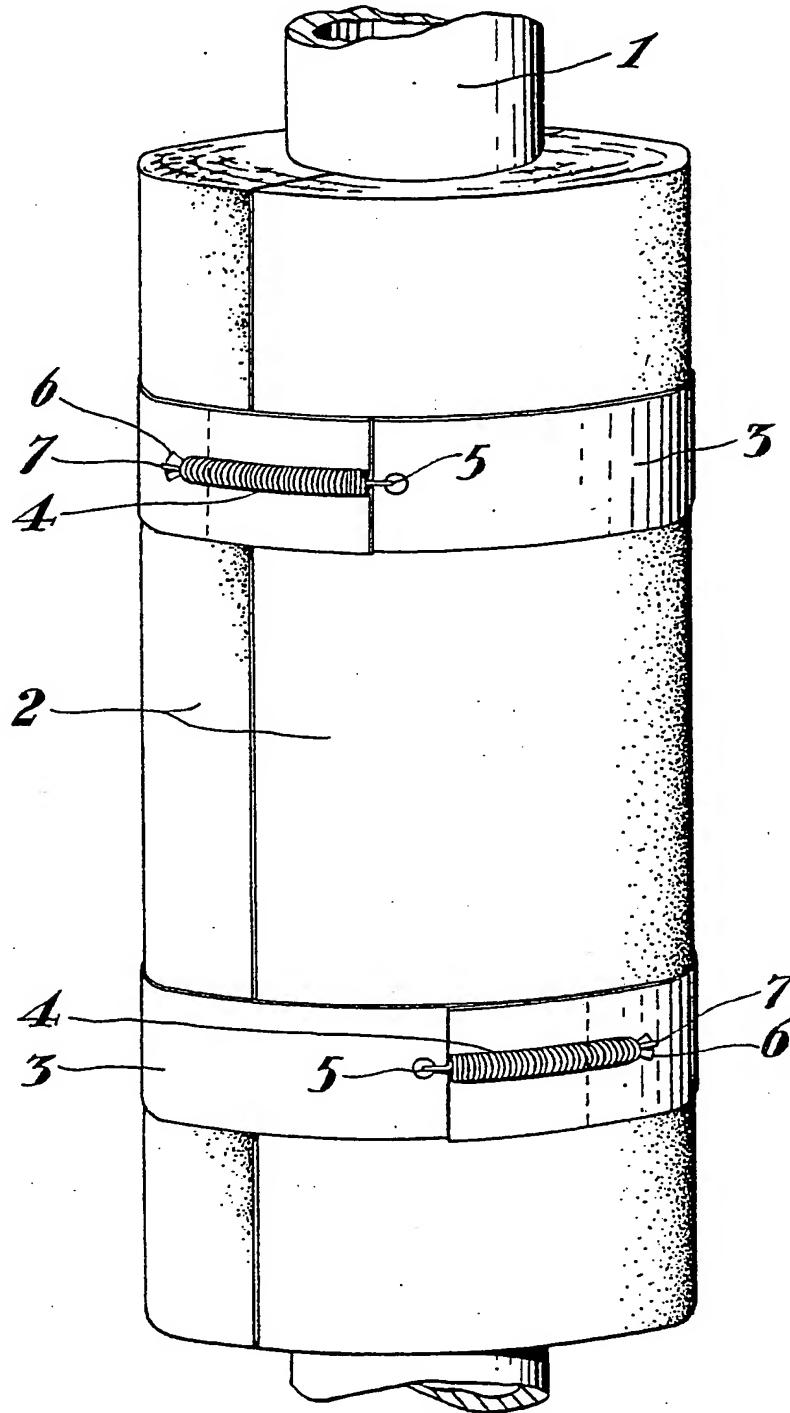
6. Fixing band, constructed, arranged  
and adapted for use substantially as 25  
described with reference to the accom-  
panying drawing.

Dated this 13th day of August, 1941.  
HARDINGHAM & URQUHART  
DYKES,  
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Chartered Patent Agents.

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*[This Drawing is a reproduction of the Original on a reduced scale.]*



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